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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/709,286

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Daniel Vo

2004-005

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12/08/2005

U.S. ARMY TACOM-ARDEC

ATTN: AMSTRA-AR-GCL

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PICATINNY ARSENAL, NJ 07806-5000

EXAMINER

PARSLEY, DAVID J

ART UNIT

PAPER NUMBER

3643

DATE MAILED: 12/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/709,286

Applicant(s)

VO ET AL.

Examiner

David J. Parsley

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7, 11 and 12 is/are rejected.
- 7) ☒ Claim(s) 8-10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **Detailed Action**

### ***Claim Objections***

1. Claim 5 recites the limitation "the set forward force" in lines 3-4. There is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 5-7 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S.

Patent No. 3,842,741 to Brothers et al.

Referring to claim 1, Brothers et al. discloses an axial kinetic energy projectile comprising, a nose – at 25, provided at a forward end of the projectile – see figure 1, a rear – at items 41-43 of the item – 39 having the largest diameter as seen in figure 1 which is the item 39 being the most rearward with respect to the nose – at 25 as seen in figure 9, provided at a rearward end of the projectile – see figure 1, and a base rod – the four items 39 and – at 21,23,27,29,33,36, provided between the nose and the rear – see for example figures 1 and 9, the base rod including a forward member – at 21, integral with the nose – see figures 1 and 9, a

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rearward member – the item 39 of the largest diameter as seen in figure 1, integral with the rear – at 41-43 – see for example figure 1, a connection – at 8-9 and 41,43, and/or – at 41-43 and 47, between the forward member and the rearward member which allows the forward member to move axially relative to the rearward member – see for example figures 1 and 9, from a contracted position where said rod – at 39, has a reduced length – see figure 1, to an extended position where the rod – at 39, has an increased length greater than the contracted length – see for example figure 9, and a locking mechanism – at 36,49, or – at 41-43 and 47 (the connections between any of the rod components – at 39 and 21), which axially locks the forward member and the rearward member together when the forward member is moved from the contracted position to the extended position – see for example figures 1 and 9 and column 3 lines 26-62 where when the nose portion – at 25 moves axially away from the rod – at 39 it forms an assembly comprising both the nose and rear portions as seen in figure 9 and thus the nose and rear portions are locked together.

Referring to claim 2, Brothers et al. further discloses the connection includes a portion of one of the forward member – at 36, which is received axially within a portion of the rearward member – see for example the telescoping relationship between items 21 and 39 in figure 1.

Referring to claim 3, Brothers et al. further discloses the connection is a sliding fit of the portions of the rearward and forward members – see the telescoping relationship between items 20 and 39 in figures 1 and 9.

Referring to claim 5, Brothers et al. further discloses the sliding fit between the portions permits the forward member to move as a result of the set forward force after firing of the

projectile from the contracted to the extended position – see for example figures 1 and 9 and column 3 lines 26-62.

Referring to claim 6, Brothers et al. further discloses the locking mechanism includes an enlarged part – at 41,43, of the rearward portion and a reduced part – at 33, of the forward portion, in which the enlarged part is received when the forward member is moved from the contracted position to the extended position – see for example figures 1, 9 and column 3 lines 26-62.

Referring to claim 7, Brothers et al. further discloses a stop – at 47, at a forward end of the reduced part – see figure 1, which stops the forward movement of the enlarged part – see for example figures 1 and 9 and column 3 lines 26-62.

Referring to claim 11, Brothers et al. further discloses a reinforcing member – at any of items 41,43 and/or 47, located in the rod between the forward member and the rearward member – see for example figure 1, when the rearward member is moved from the contracted position to the extended position – see for example figures 1 and 9, the reinforcing member pressing against an outer wall of the rod to help prevent bowing of the outer wall during flight – see for example figures 1 and 9.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brothers et al. as applied to claim 3 above, and further in view of U.S. Patent No. 4,964,341 to Hebert. Brothers et al. further discloses a chamber – at the interior of item 7 as seen in figure 1, having a propellant – at 13, therein – see figure 1, wherein the propellant is ignited after firing of the projectile to move the forward member from the contracted position – figure 1, to the extended position – figure 9 – see for example figures 1 and 9 and column 3 lines 26-62. Brothers et al. does not disclose the chamber is located between the forward member and rearward member portions. Hebert does disclose the chamber and propellant – at 11 and the interior of 11, are located between the forward member portion – at 55,57, and the rearward member portion – at 35 – see for example figures 2-3. Therefore it would have been obvious to one of ordinary skill in the art to take the device of Brothers et al. and add the chamber located between the forward and rearward member portions of Hebert, so as to allow for aerodynamic and frictional forces to release, deploy and lock the extendable portions during use.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over the embodiment of Brothers et al. as seen in figures 1-3 as applied to claim 11 above, and further in view of the embodiment of Brothers et al. as seen in figures 6-7. The embodiment of Brothers et al. in figures 1-3, does not disclose the reinforcing member is resilient. The embodiment of Brothers et al. as seen in figures 6-7, does disclose the reinforcing member – at 55, is resilient – see for example column 3 lines 10-25. Therefore it would have been obvious to one of ordinary skill in the art to take the device of the embodiment of figures 1-3 of Brothers et al. and add the reinforcing member being resilient of the embodiment of Brothers et al. as seen in figures 6-7, so as to allow for rod to be quickly and automatically extended during use.

*Allowable Subject Matter*

4. Claims 8-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

*Conclusion*

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to further show the state of the art with respect to penetration projectiles in general:

U.S. Pat. No. 2,324,551 to Albree – shows projectile with retractable rod

U.S. Pat. No. 3,256,816 to Pilcher – shows munition with retractable rod

U.S. Pat. No. 4,242,960 to Boeder et al. – shows projectile with rod

U.S. Pat. No. 4,624,187 to Bocker et al. – shows projectile with rod

U.S. Pat. No. 4,706,569 to Wallow et al. – shows projectile with threads

U.S. Pat. No. 6,492,632 to Pollin – shows retractable projectile

JP Pat. No. 5-118795 – shows projectile with rod

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6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David J. Parsley whose telephone number is (571) 272-6890.

The examiner can normally be reached on Monday-Friday from 8am to 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Poon can be reached on (571) 272-6891. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



David Parsley  
Patent Examiner  
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